Amendments to the Claims:

This list of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claim 1 (currently amended): A method for positioning contaminant sensors in an outdoor area, the method comprising:

identifying at least one potential contaminant release location within the outdoor area;

modeling a contaminant dispersion pattern using the at least one contaminant release location; and

positioning at least one of the contaminant sensors within the outdoor area based on the contaminant dispersion pattern.

Claim 2 (original): The method of Claim 1, wherein the at least one contaminant release location comprises a point source.

Claim 3 (original): The method of Claim 1, wherein the at least one contaminant release location comprises a line source.

Claim 4 (original): The method of Claim 1, further comprising obtaining input data for the modeling from the at least one contaminant release location.

Claim 5 (original): The method of Claim 4, wherein the input data comprises at least one hypothetical contaminant concentration.

Claim 6 (original): The method of Claim 4, wherein the input data comprises weather conditions.

Claim 7 (original): The method of Claim 4, wherein the input data comprises wind speed and/or wind direction.

Claim 8 (original): The method of Claim 1, wherein the contaminant dispersion pattern is defined by simulation data.

Claim 9 (original): The method of Claim 8, wherein the simulation data comprises contaminant concentration, latitude, longitude, and elevation.

Claim 10 (currently amended): The method of Claim 1, further comprising collecting background data that defines normal conditions in the outdoor area.

Claim 11 (original): The method of Claim 1, wherein the modeling is continuous.

Claim 12 (original): The method of Claim 1, wherein the modeling is periodic.

Claim 13 (original): The method of Claim 1, wherein the at least one contaminant sensor detects biological, chemical and nuclear contaminants.

Claim 14 (original): The method of Claim 1, wherein the at least one contaminant sensor is mobile.

Claim 15 (original): The method of Claim 1, wherein the at least one contaminant sensor is stationary.

Claim 16 (original): The method of Claim 1, further comprising:

collecting detection data from the at least one sensor; and

identifying the occurrence of unsafe contaminant levels.

Claim 17 (original): The method of Claim 16, further comprising responding to the occurrence of unsafe contaminant levels.

Claim 18 (currently amended): A method for detecting a contaminant release in an outdoor area, the method comprising:

selectively positioning contaminant sensors within the outdoor area based on a modeled contaminant dispersion pattern in the outdoor area;

collecting detection data from the selectively positioned contaminant sensors; and

identifying the occurrence of unsafe contaminant levels.

Claim 19 (original): The method of Claim 18, wherein the detection data comprises biological, chemical and/or nuclear contaminant concentrations.

Claim 20 (original): The method of Claim 18, wherein the detection data comprises weather conditions.

Claim 21 (original): The method of Claim 18, wherein the detection data comprises wind speed and/or wind direction.

Claim 22 (currently amended): The method of Claim 18, wherein the contaminant sensors ~~comprises~~ comprise optically based sensors, infrared sensors, reagentless optical sensors, bio-chip sensors, fiber optic sensors and/or direct sensors.

Claim 23 (currently amended): The method of Claim 18, wherein the contaminant sensors [[is]] are remotely reprogrammable.

Claim 24 (currently amended): The method of Claim 18, wherein the contaminant sensors [[is]] are remotely positioned.

Claim 25 (original): The method of Claim 18, wherein the detection data is continuously collected.

Claim 26 (original): The method of Claim 18, wherein the detection data is periodically collected.

Claim 27 (currently amended): The method of Claim 18, wherein the contaminant sensors ~~comprise locations established for sampling~~ sample air, groundwater, surface water, sediment and/or soil.

Claim 28 (currently amended): The method of Claim 18, further comprising collecting background data that defines normal conditions in the outdoor area.

Claim 29 (original): The method of Claim 18, further comprising real-time modeling of contaminant dispersion patterns.

Claim 30 (original): The method of Claim 18, wherein unsafe contaminant levels are detected by comparing the detection data to a modeled dispersion pattern.

Claim 31 (currently amended): The method of Claim 18, wherein the unsafe contaminant levels are detected by comparing the detection data to background data that defines normal conditions in the outdoor area.

Claim 32 (original): The method of Claim 18, further comprising signaling a response system when unsafe contaminant levels are identified.

Claim 33 (original): The method of Claim 18, further comprising collecting and analyzing syndromic data from humans, plants and/or animals.

Claim 34 (currently amended): The method of Claim 18, wherein the sensors are selectively ~~placed~~ positioned by:

identifying at least one potential contaminant release location within the outdoor area; and

modeling a contaminant dispersion pattern using the at least one contaminant release location[[; and

positioning the contaminant sensors within the area based on the contaminant dispersion pattern]].

Claim 35 (currently amended): A method for responding to a contaminant release in an outdoor area, the method comprising:

selectively positioning contaminant sensors within the outdoor area based on a modeled contaminant dispersion pattern in the outdoor area;

detecting a contaminant release using the selectively placed sensors; and

responding to the contaminant release upon its detection.

Claim 36 (currently amended): The method of Claim 35, wherein a contaminant release is detected by collecting detection data from the selectively positioned contaminant sensors and identifying the occurrence of unsafe contaminant levels.

Claim 37 (original): The method of Claim 36, wherein the detection data comprises biological, chemical and/or nuclear contaminant concentrations.

Claim 38 (original): The method of Claim 36, wherein the detection data comprises weather conditions.

Claim 39 (original): The method of Claim 36, wherein the detection data comprises wind speed and/or wind direction.

Claim 40 (original): The method of Claim 35, further comprising implementing protective measures immediately following the detection of a contaminant release.

Claim 41 (original): The method of Claim 40, wherein the protective measures comprise medical response procedures for emergency rooms and hospitals.

Claim 42 (original): The method of Claim 40, wherein the protective measures comprise warning alarms, instructions for personal protection and/or news updates.

Claim 43 (original): The method of Claim 40, wherein the protective measures comprise sealing of at least one building and/or room.

Claim 44 (original): The method of Claim 40, wherein the protective measures comprise operation of at least one positive pressure system.

Claim 45 (original): The method of Claim 40, wherein the protective measures comprise introduction of clean air.

Claim 46 (original): The method of Claim 40, wherein the protective measures comprise closing of travel routes.

Claim 47 (currently amended): The method of Claim 35, ~~wherein a detection system and a response system~~ further comprising ~~communicate~~ communicating the detected contaminant release via an information technology infrastructure prior to the response to the contaminant release.

Claim 48 (currently amended): The method of Claim 35, wherein the sensors are selectively ~~placed~~ positioned by:

identifying at least one potential contaminant release location within the outdoor area; and

modeling a contaminant dispersion pattern using the at least one contaminant release location[[; and

positioning the contaminant sensors within the area based on the contaminant dispersion pattern]].

Claim 49 (currently amended): An array of selectively positioned sensors within an outdoor area, wherein positions of the sensors are determined by:

identifying at least one potential contaminant release location within the outdoor area;

modeling a contaminant dispersion pattern using the at least one contaminant release location; and

positioning at least one of the contaminant sensors within the outdoor area based on the contaminant dispersion pattern.

Claim 50 (original): The array of Claim 49, wherein the sensors communicate using an information technology infrastructure.